NWS Form E-5 **U.S. DEPARTMENT OF COMMERCE** **(04-2006)** **NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION** **(PRES. BY NWS Instruction 10-924)** **NATIONAL WEATHER SERVICE**	HYDROLOGIC SERVICE AREA (HSA) Burlington VT
MONTHLY REPORT OF HYDROLOGIC CONDITIONS	REPORT FOR: MONTH YEAR October 2013
TO: Hydrologic Information Center, W/OS31 NOAA's National Weather Service 1325 East West Highway Silver Spring, MD 20910-3283	SIGNATURE /s/ Kimberly G. McMahon, GF WFO BTV DATE November 13, 2013

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

X An X inside this box indicates that no flooding occurred within this hydrologic service area.

October was a rather dry month with most of the CWA seeing below normal precipitation amounts (Figures 1 and 2). With the latter half of September being relatively dry, this lead to several weeks of dry weather, and dry soils. There were a limited number of precipitation producing events and what did occur produced 1 to 2 inches at a time (Figure 3). On Figure 3, you can see the most notable event occurred in early October.

On October sixth through seventh, a quasi-stationary boundary over Pennsylvania moved north as a warm front across New England as the associated surface low pressure traversed northeastward across the Great Lakes into Quebec. This system also brought a cold front through the area (Figure 6). The combination of precipitation from the warm front and cold front resulted in widespread rainfall amounts over one inch (Figures 4 and 5). However because of dry antecedent conditions rivers rises were only one to two feet.

High pressure built into the region for about one week before the next weak system brought light rainfall less than one inch. Such was the pattern for most of October with fast moving systems lacking in abundant moisture. The next significant event with widespread precipitation occurred late on October 31. Figure 8 shows the strong surface low pressure system which produced strong gusty winds and generally half an inch to 1.5 inches of rainfall to all but the Champlain Valley (Figure 7). Rivers responded to this rainfall the next day and will be addressed in the November report.

The low precipitation experienced throughout the month is reflected in the Monthly Average Streamflow Map (Figure 9), which shows below normal to normal stream flow for both northern New York and Vermont.

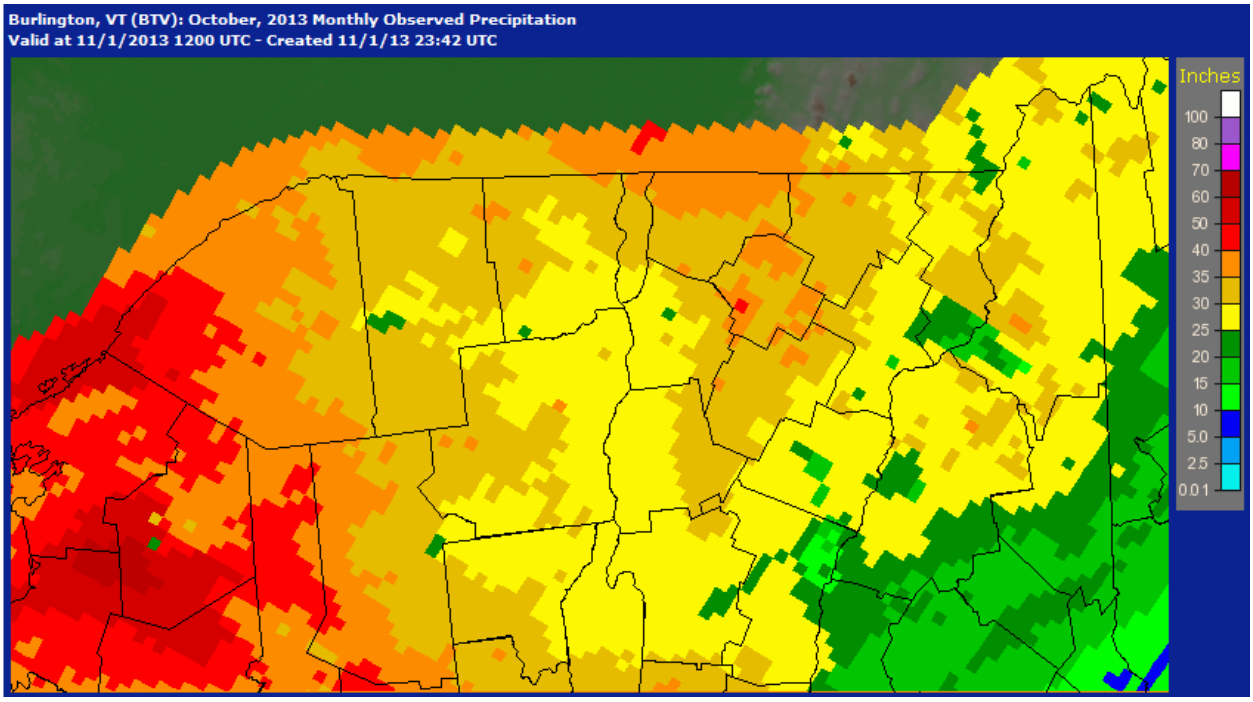


Figure 1 shows the Accumulated Precipitation total across NWS Burlington VT CWA for October 2013.

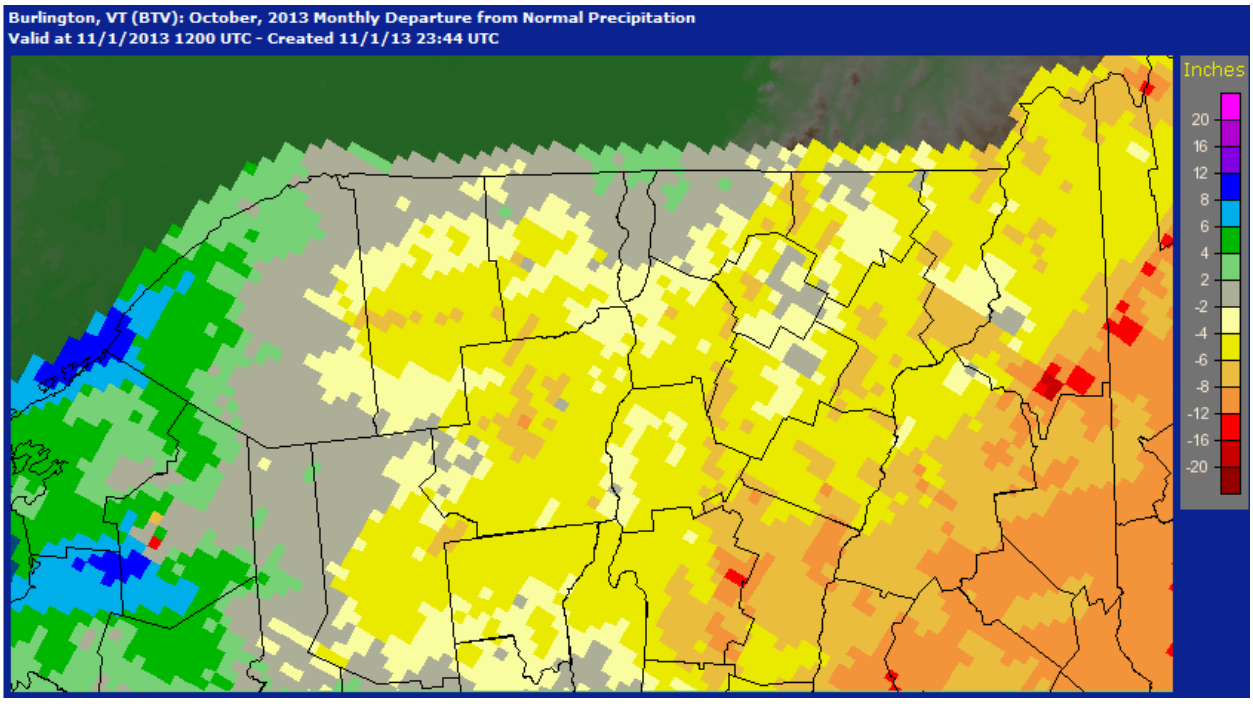


Figure 2 shows the Monthly Departure from Normal Precipitation for October 2013.

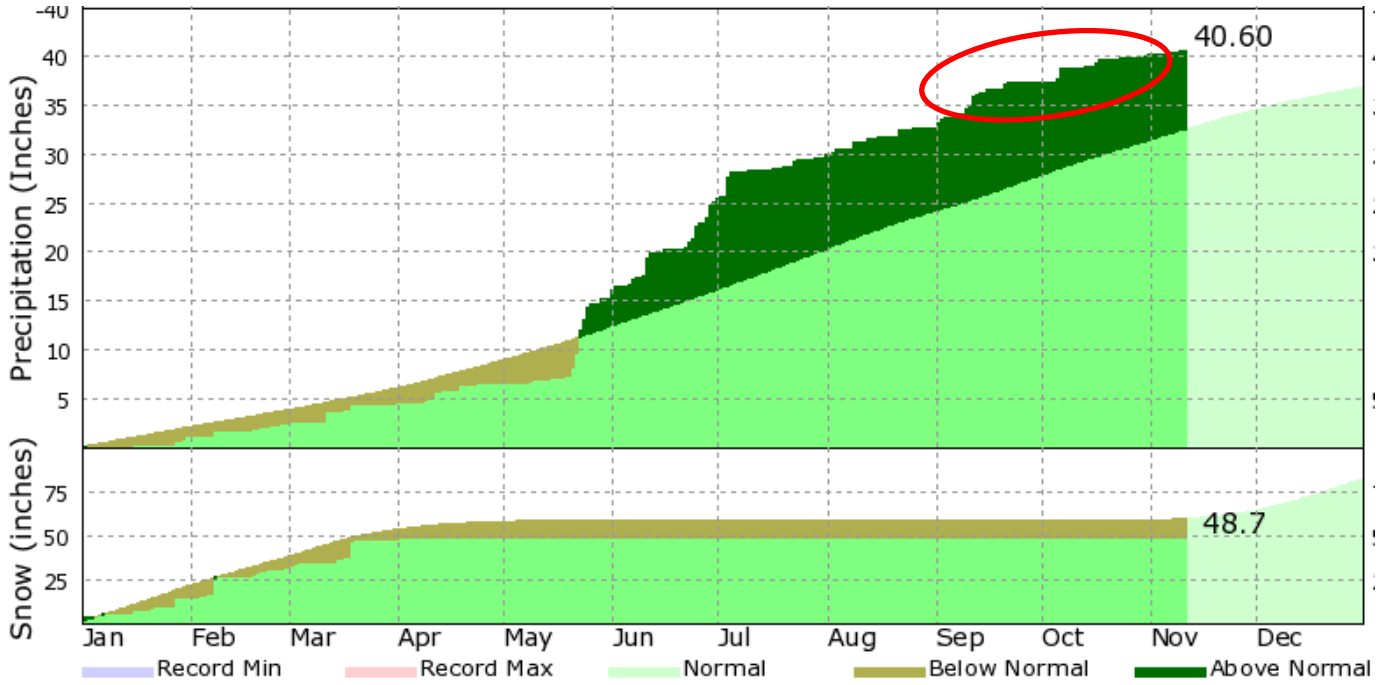


Figure 3 shows the accumulated precipitation at Burlington, VT for 2013. Circled in red is the gradual increase observed, indicating a fairly dry pattern. The most notable increase was see Oct7-8.

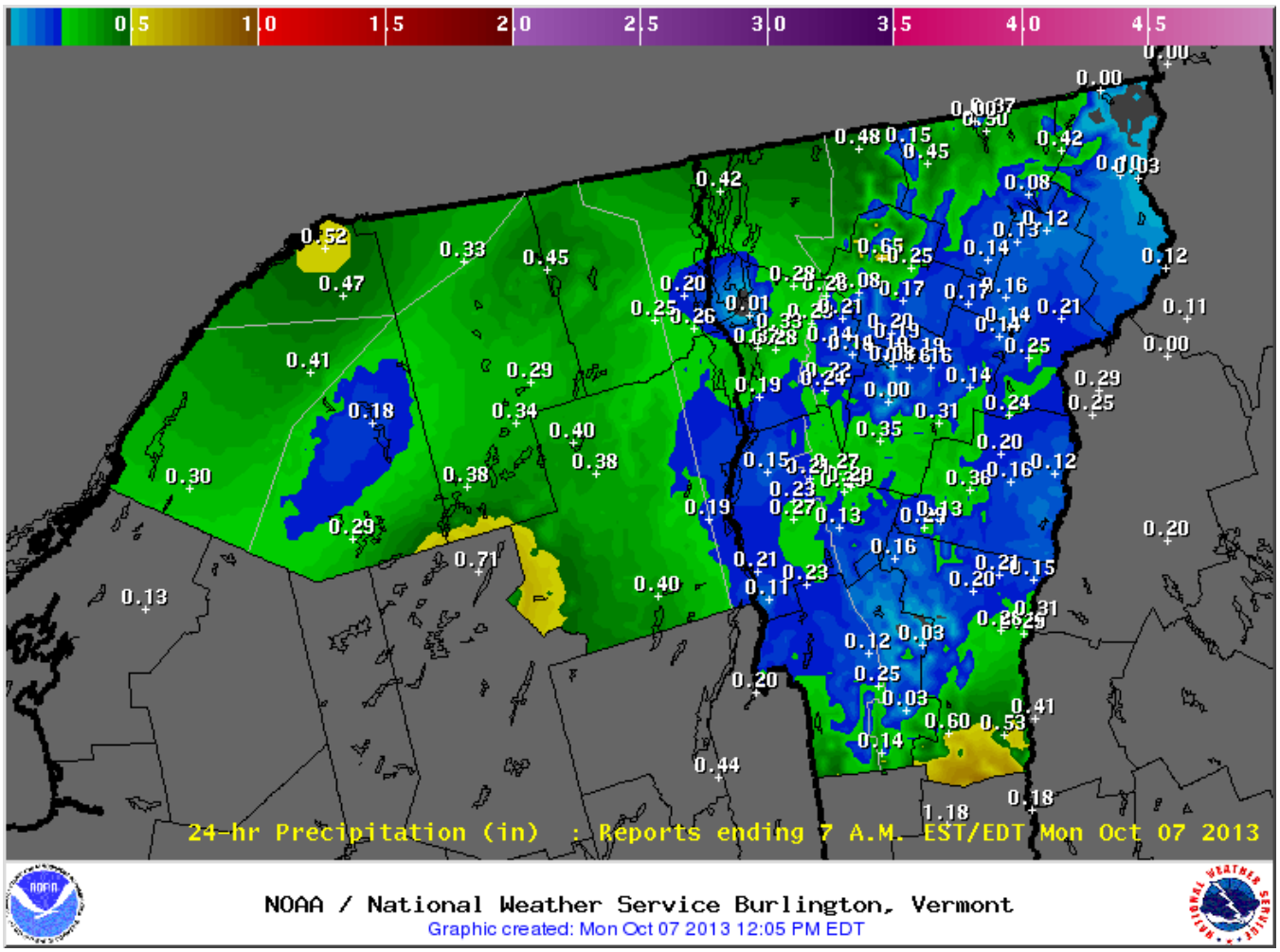


Figure 4 shows precipitation up to about a half inch that fell across the North Country Sunday Oct 6 through the morning of Monday October 7 2013.

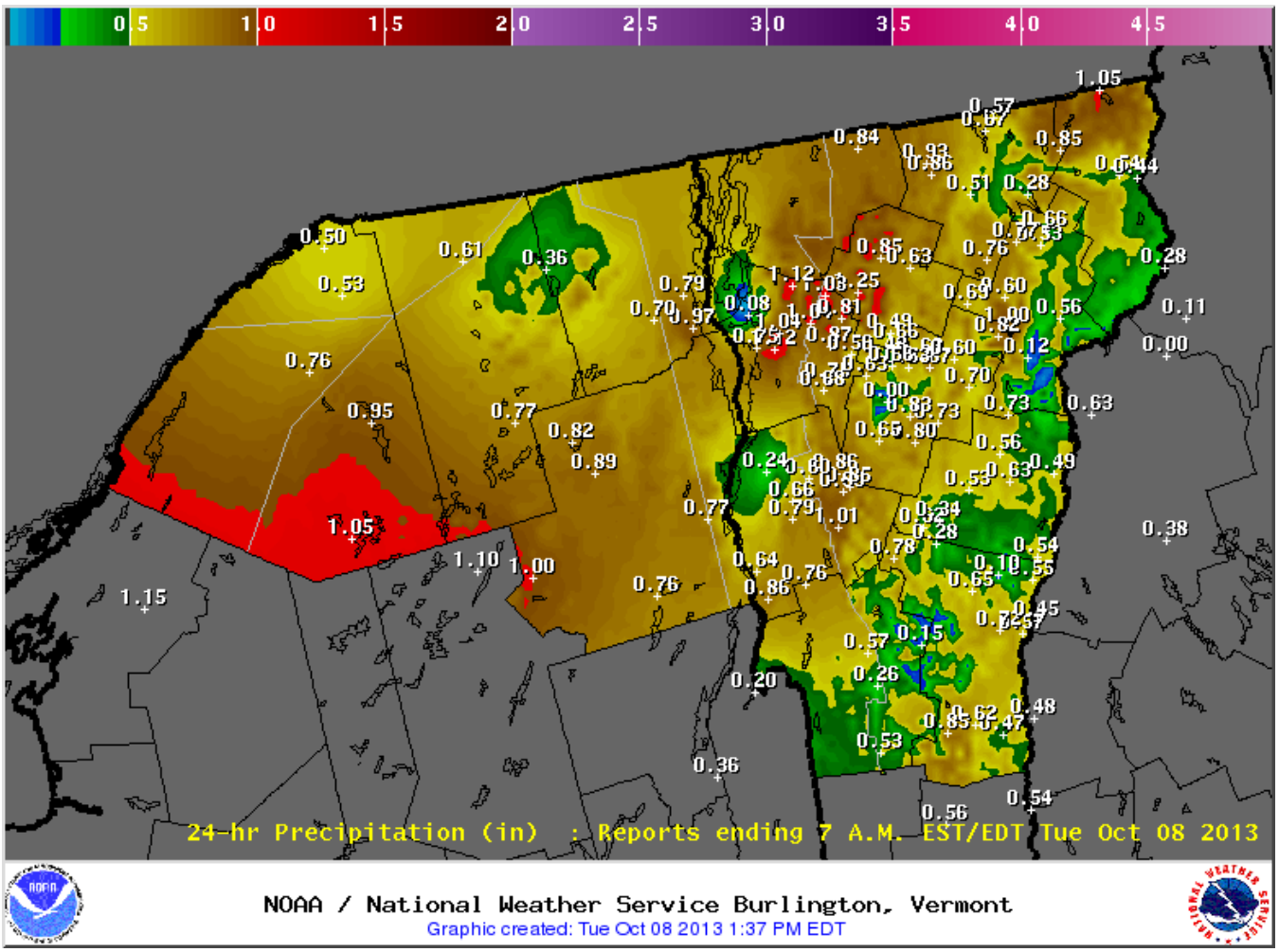


Figure 5 shows the more significant precipitation that occurred Monday October 7 2013 as a complex system moves across the north east, bringing over one inch of rainfall in areas.

DAY

MONDAY OCTOBER 7, 2013

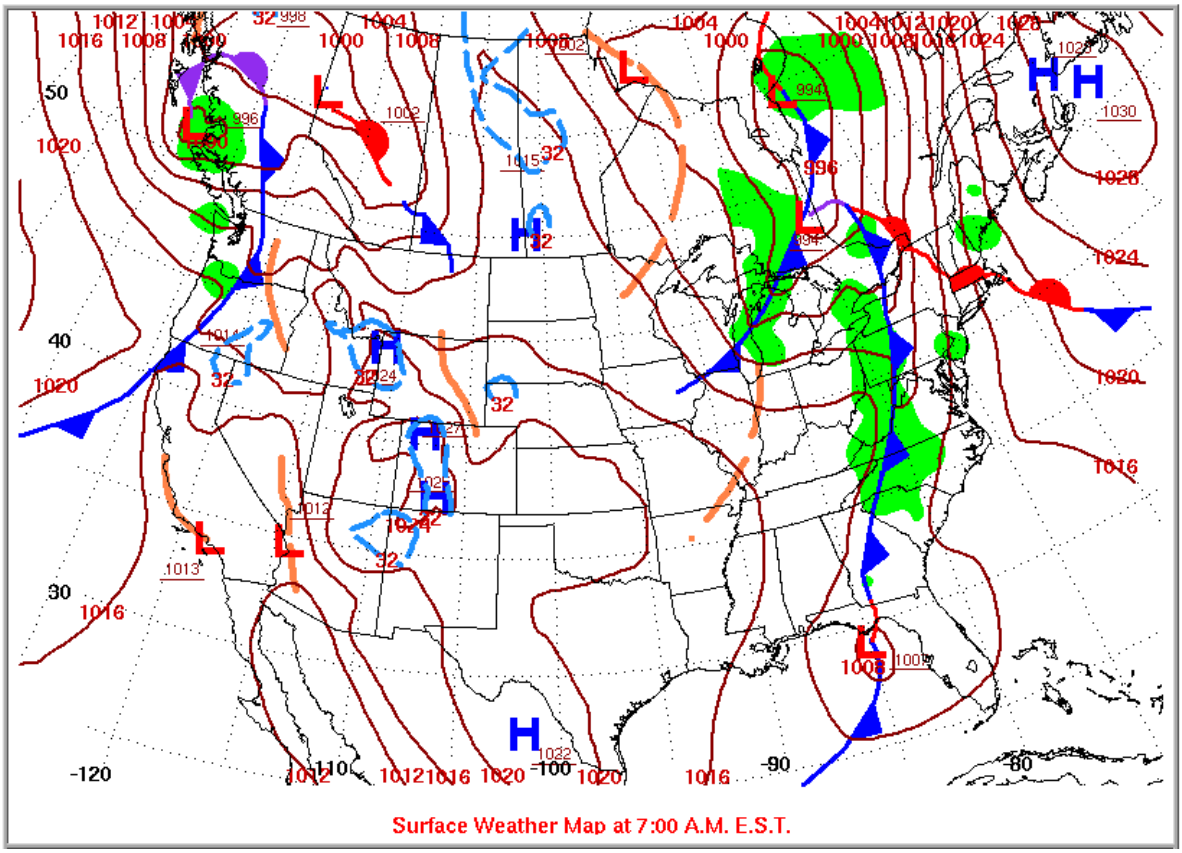


Figure 6: Warm front quickly followed by a cold front, with yet another front behind it moved through the North Country bringing over one inch of rainfall to areas October sixth and seventh.

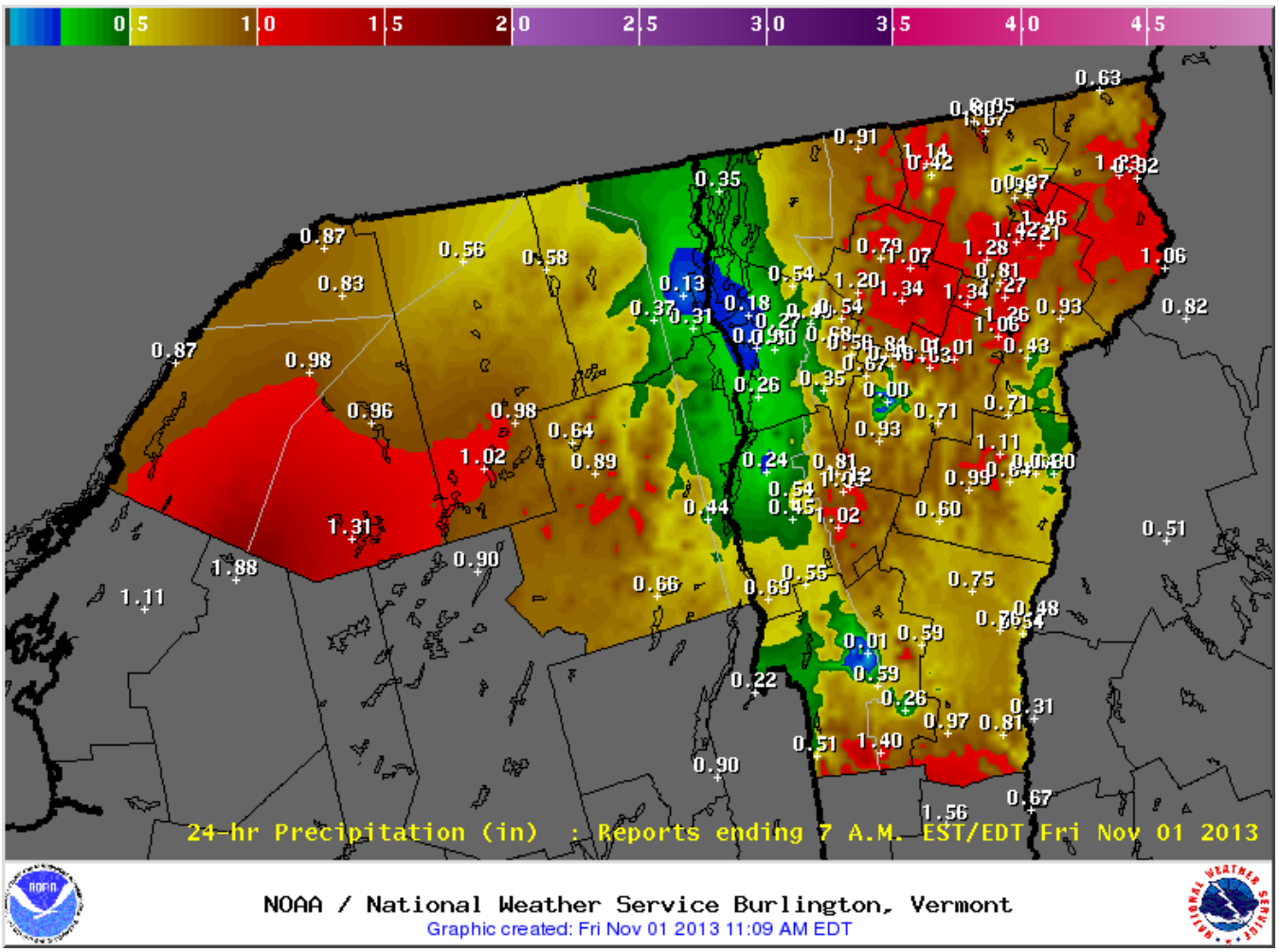


Figure 7 shows the second event in October 2013 to produce over one inch of precipitation, which occurred on the last day of October.

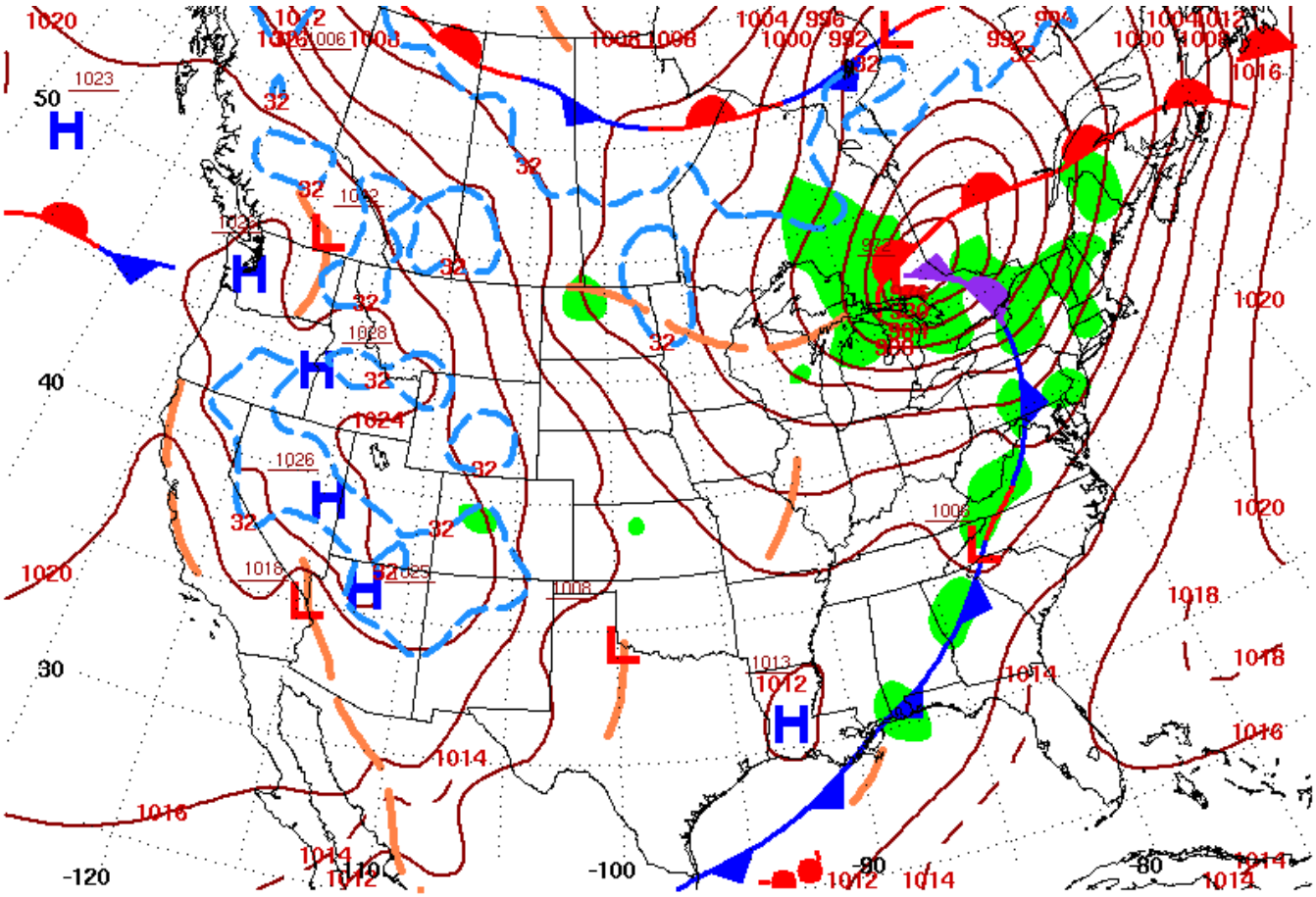
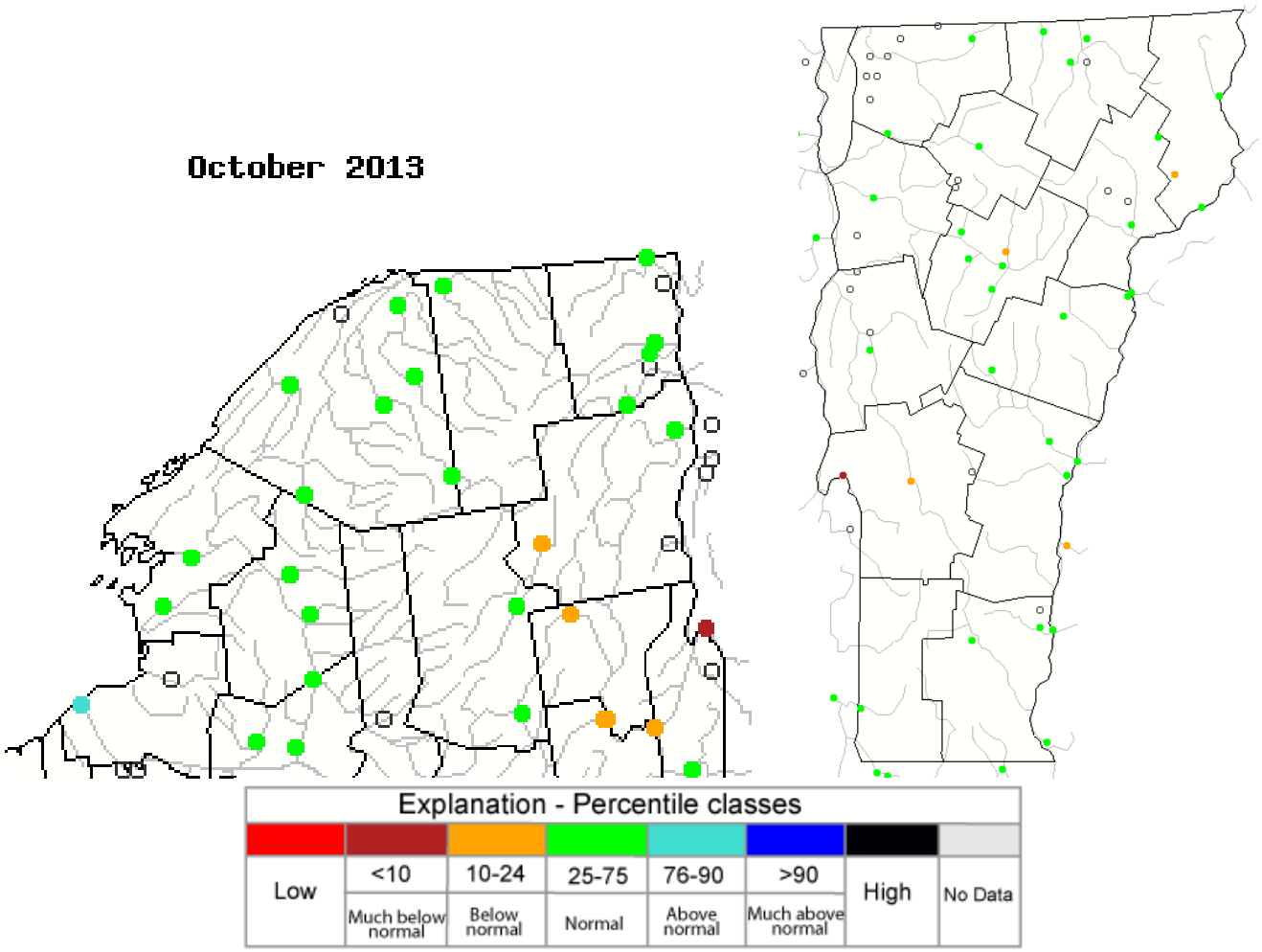


Figure 8 shows the low pressure system that closed out October with some areas receiving over one inch of rainfall in24 hours or less.



Figures 9: Average Monthly Streamflow from USGS for Northern New York and Vermont during October 2013.